



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/568,012	02/10/2006	Peter Neugebauer	032301.440	7386
441 7590 02/23/2011 SMITH, GAMBRELL & RUSSELL 1130 CONNECTICUT AVENUE, N.W., SUITE 1130 WASHINGTON, DC 20036			EXAMINER SLIFKA, COLIN W	
			ART UNIT 1732	PAPER NUMBER
			MAIL DATE 02/23/2011	DELIVERY MODE PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/568,012

Applicant(s)

NEUGEBAUER ET AL.

Examiner

COLIN W. SLIFKA

Art Unit

1732

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 09 September 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-4,6-8 and 10-36 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4,6-8 and 10-36 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Claim Rejections - 35 USC § 103

The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

Claims 1-2, 4, 6-8, 10-14, 20, 26-27, and 32-36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Roman (US Patent No. 6,171,602) in view of Deller et al. (US Patent No. 5,776,240), Hasenzahl et al. (WO 03/037379 A1, hereinafter referred to as Hasenzahl), and Degussa press release titled "Dry Binder - A New Concept for Pressed Powders," (June 12, 2003; hereinafter referred to as "the press release"), Hasenzahl et al (2003/0108580, hereinafter referred to as Hasenzahl '580), and Oswald et al (EP 1182168).

Roman teaches powder comprising silanized porous silica granules used as carriers of various foodstuff additives, such as beet powder, caramel color, carrot oil, fruit juice, paprika, riboflavin, saffron, turmeric, vegetable juice, and red cabbage (col. 2, lines 26-33).

Roman does not teach the use of pyrogenically prepared silica.

Deller teaches pyrogenically prepared silica granules made by spray drying Aerosil (which is made by flame hydrolysis) and heat treating the result, with exactly the claimed dimensions and characteristics (see abstract) which can be used as adsorption media (col. 1, lines 28-29). It should be noted that while the particular silica of Deller is beneficial for use as a catalyst support, Deller also teaches that such silica granules are used as adsorption media (col. 1, lines 29-20). Deller even teaches that while spray

Art Unit: 1732

dried granules of pyrogenically prepared silicon dioxides are known to be used as catalyst supports, they are not "optimally" suitable for such a purpose (Background). In addition, the press release teaches that the granules of Deller (Aeroperl) are known to be useful as adsorbates, and Hasenzahl teaches that such pyrogenically prepared silica is superior to precipitated silica, which typically has an unacceptably high water content (p. 4, lines 2-8). Furthermore, Hasenzahl '580 teaches the use of pyrogenically-produced silica granulates as an adsorbate with at least one other substance including auxiliary substances, such as absorbents, antioxidants, biological additives, flavorings, preservatives, vegetable constituents, and vitamins (abstract and par. 98), all of which can be considered to fit the broad categories of "foodstuff" and "feedstuff" additives, and potentially even plant protection agents. Oswald, in a similar invention of pyrogenically produced silica, teaches an intended use for the silica in glass production; however, Oswald also teaches that the silica may be used as an adsorbent and in the food industry (par. 20).

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate Deller's granules into Roman's powder because they are known to be useful as an adsorbate and to be superior to precipitated alternatives.

Regarding claims 2, 11, and 26, Roman teaches the use of riboflavin, which is both a food dye and a feedstuff additive.

Regarding claims 4, 8, and 10, Deller teaches adsorbate particles silanized with any of the claimed silane compounds.

Regarding claims 6-7 and 32, Deller teaches exactly the claimed dimensions and characteristics.

Regarding claims 12-13 and 20, Roman teaches the use of ascorbic acid, which is an antioxidant, a food preservative, and an acid.

Regarding claim 14, Roman teaches the use of glyceryl ester derivatives as emulsifiers.

Regarding claim 25, Roman teaches the use of cinnamates, which are aroma agents.

Regarding claim 27, Roman teaches the use of cysteine, which is a chemical intermediate for the production of various food additives.

Regarding claim 33, Roman teaches the use of turmeric oleoresin.

Regarding claim 34, Roman teaches the use of beta-carotene, which is a free radical interceptor.

Regarding claims 35-36, Roman teaches that the silica granules absorb liquids in approximately a 1:1 ratio (col. 4, lines 62-67).

Claims 1, 3, 28, and 30-31 are rejected under 35 U.S.C. 103(a) as being unpatentable over Minemoto (JP 02049707 A) in view of Deller, Hasenzahl, the press release, Hasenzahl '580, and Oswald.

Minemoto teaches a powder of boric acid adsorbed on porous silica granules. Boric acid acts as both an insecticide and a fungicide.

Minemoto does not teach the use of pyrogenically prepared silica.

Deller teaches pyrogenically prepared silica granules made by spray drying Aerosil (which is made by flame hydrolysis) and heat treating the result, with exactly the claimed dimensions and characteristics (see abstract) which can be used as adsorption media (col. 1, lines 28-29). In addition, the press release teaches that the granules of Deller (Aeroperl) are known to be useful as adsorbates, and Hasenzahl teaches that such pyrogenically prepared silica is superior to precipitated silica, which typically has an unacceptably high water content (p. 4, lines 2-8). Furthermore, Hasenzahl '580 teaches the use of pyrogenically-produced silica granulates as an adsorbate with at least one other substance including auxiliary substances, such as absorbents, antioxidants, biological additives, flavorings, preservatives, vegetable constituents, and vitamins (abstract and par. 98), all of which can be considered to fit the broad categories of "foodstuff" and "feedstuff" additives, and potentially even plant protection agents. Oswald, in a similar invention of pyrogenically produced silica, teaches an intended use for the silica in glass production; however, Oswald also teaches that the silica may be used as an adsorbent and in the food industry (par. 20).

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate Deller's granules into Minemoto's powder because they are known to be useful as an adsorbate and to be superior to precipitated alternatives. In addition, Minemoto's requirements of 10-5000 Å diameter pores, 0.05-3 cm³/g pore capacity, and 1-300 µm grain diameters are all satisfied by Deller's granules.

Claims 1, 19, 21, 29, and 34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Park et al. (US Patent No. 5,654,258) in view of Deller, Hasenzahl, the press release, Hasenzahl '580, and Oswald.

Park teaches a composition comprising trifluralin (an herbicide) in porous silica carrier particles. Park does not teach the use of pyrogenically prepared silica. Deller teaches pyrogenically prepared silica granules made by spray drying Aerosil (which is made by flame hydrolysis) and heat treating the result, with exactly the claimed dimensions and characteristics (see abstract) which can be used as adsorption media (col. 1, lines 28-29). In addition, the press release teaches that the granules of Deller (Aeroperl) are known to be useful as adsorbates, and Hasenzahl teaches that such pyrogenically prepared silica is superior to precipitated silica, which typically has an unacceptably high water content (p. 4, lines 2-8). Furthermore, Hasenzahl '580 teaches the use of pyrogenically-produced silica granulates as an adsorbate with at least one other substance including auxiliary substances, such as absorbents, antioxidants, biological additives, flavorings, preservatives, vegetable constituents, and vitamins (abstract and par. 98), all of which can be considered to fit the broad categories of "foodstuff" and "feedstuff" additives, and potentially even plant protection agents. Oswald, in a similar invention of pyrogenically produced silica, teaches an intended use for the silica in glass production; however, Oswald also teaches that the silica may be used as an adsorbent and in the food industry (par. 20).

It would have been obvious to one of ordinary skill in the art at the time of the invention to incorporate Deller's granules into Park's herbicide composition because

Art Unit: 1732

they are known to be useful as an adsorbate and to be superior to precipitated alternatives.

Regarding claims 19, 21, and 34, Park teaches that the particles may be coated in alkyl naphthalene sulfonate sodium salt (col. 4, line 49), which is an alkali salt used as a wetting agent.

Claims 1, 15-18, and 22-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Peterson et al. (US Patent No. 6,004,584) in view of Deller and the press release.

Peterson teaches a body powder comprising powder carriers such as soy starch, modified corn starch, or microcrystalline cellulose (col. 3, lines 45-50); and binders such as isopropyl or magnesium myristate (col. 6, line 55).

Peterson does not teach the use of pyrogenically prepared silica.

The press release teaches that granulated fumed silica (e.g. Aeroperl, the material taught by Deller) is an ideal replacement for isopropyl or magnesium myristate as a dry binder in cosmetic applications, as it adsorbs the oily components and releases them upon compression. Deller teaches pyrogenically prepared silica granules made by spray drying Aerosil (which is made by flame hydrolysis) and heat treating the result, with exactly the claimed dimensions and characteristics (see abstract) which can be used as adsorption media (col. 1, lines 28-29).

It would have been obvious to one of ordinary skill in the art at the time of the invention to use Deller's silica granules (Aeroperl) as a dry binder in Peterson's body

Art Unit: 1732

powder because "Dry Binder" teaches that silica granule adsorbates are superior dry binders and Deller specifically teaches that it is one intended use of the granules.

Regarding claims 15-18, microcrystalline cellulose can be used as a gelling agent, thickener, binder, or stabilizer.

Regarding claim 22, the modified corn flour is an antilumping agent.

Regarding claim 23, soy starch contains glutamic acid, which is a flavor intensifier.

Claims 1 and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over Technical Bulletin Pigments No. 31 (Degussa AG, November 1995) in view of Deller Hasenzahl, the press release, Hasenzahl '580, and Oswald.

The Technical Bulletin teaches that silanized silica is useful as an adsorbate for molasses in order to make a free-flowing powder.

The Technical Bulletin does not teach the use of pyrogenically prepared silica granules.

Deller teaches pyrogenically prepared silica granules made by spray drying Aerosil (which is made by flame hydrolysis) and heat treating the result, with exactly the claimed dimensions and characteristics (see abstract) which can be used as adsorption media (col. 1, lines 28-29). In addition, the press release teaches that the granules of Deller (Aeroperl) are known to be useful as adsorbates, and Hasenzahl teaches that such pyrogenically prepared silica is superior to both precipitated silica, which typically has an unacceptably high water content (p. 4, lines 2-8), and to loose pyrogenic silica

Art Unit: 1732

adsorbates, which typically have insufficient flowability (p. 3, lines 22-33). Furthermore, Hasenzahl '580 teaches the use of pyrogenically-produced silica granulates as an adsorbate with at least one other substance including auxiliary substances, such as absorbents, antioxidants, biological additives, flavorings, preservatives, vegetable constituents, and vitamins (abstract and par. 98), all of which can be considered to fit the broad categories of "foodstuff" and "feedstuff" additives, and potentially even plant protection agents. Oswald, in a similar invention of pyrogenically produced silica, teaches an intended use for the silica in glass production; however, Oswald also teaches that the silica may be used as an adsorbent and in the food industry (par. 20).

It would have been obvious to one of ordinary skill in the art at the time of the invention to use Deller's granules as an adsorbate for molasses as taught in the Technical Bulletin because they are known to be useful as an adsorbate and to be superior to loose or precipitated alternatives.

Response to Arguments

Applicant's arguments filed September 9, 2010 have been fully considered but they are not persuasive. Applicant requests evidence to substantiate the position regarding the availability of the Press Release (of record) to the public. Examiner does not see the necessity for such substantiation as the date, Thursday, June 12, 2003 is considered to be the publication date of the press release. "Press Release," as referred to by Examiner, implies that the article has been released to the public. Additionally, Examiner points to the hyperlink at the bottom of the Press Release as submitted with

Art Unit: 1732

the action of September 8, 2008, which shows that the Release was located, at the time of access, in a news archive, specifically designated in 2003. This is considered to be evidence on its own merits showing that said Release was public. Furthermore, it can be seen on the company's website that such news releases are of public record. Two references are submitted with this action, showing such a press release for February 10, 2011, accessed "today," which also happens to be February 10, 2011. It would appear that it is customary for the company to make such releases of public record at least within 24 hours of the displayed date (give or take some hours to compensate for varying time zones).

Regarding Roman, Applicant argues that the product of Roman is not a plant protecting agent, food stuff, or feed stuff. Such a fact does not impact patentability, as the instant claims are not limited to such a product. The instant claims limit the additives in the final product, not the intended use of said product. As stated both above and in the prior action, Roman describes various foodstuff additives. Whether the additives are used for cosmetic pigments or within some aspect pertaining to food is irrelevant, so long as said additives can be used as foodstuff additives. The additives taught by Roman, listed above, can clearly be used in "foodstuffs."

Applicant further argues that there is insufficient motivation to combine the listed references with Roman. Applicant states that the rejection of record appears to be an "obvious to try" type." Applicant also describes the silica of Deller, Hasenzahl, and the Press Release in terms of their individual intended uses, disregarding the teachings relied upon in the rejection of record. Before going further, Examiner must point out that

Art Unit: 1732

the silica of Deller is the carrier of the instant claims, as the claimed physical properties are *exactly* the same as those of Deller. It is not clear if this is disputed by Applicant.

As shown both above and in the previous action, Hasenzahl teaches a superiority of the silica of Deller over the silica of Roman, and the press release teaches that the granules of Deller are known adsorbates. Also, as shown above, while Deller may intend the silica to be used as a catalyst support, Deller teaches that such silica is also known to be used as adsorption media. Hasenzahl '580 and Oswald have been relied upon to further support that it is known to use similar silica products as carriers for "foodstuffs."

Applicant refers to a BPAI decision suggesting the need for an equivalency teaches in the substitution of one silica type for another. Examiner believes that in the present application, sufficient motivation for combining the prior art references has been provided. It is not clear why Applicant suggests a lack of equivalency. As shown above, such silica carriers are well known to support a variety of materials, including "foodstuffs." Regarding the various uses of the silica of the prior art, what is used as a "pigment" in a cosmetic application may be considered a "foodstuff" in another, such uses or brandings do not limit the physical properties of the materials. It is noted that instant claim 2 includes "dyestuffs" as a "foodstuff" additive.

Finally, regarding the rejection of Roman, Applicant argues unexpected results. The results appear to depend on the carrier used. As the silica of Deller exactly meets the claimed limitation, it is expected that the results would be similar if not exactly the same. At the very least, one would expect the silica of Deller with "foodstuff" additives (or rather the additives of Roman with the carrier of Deller) to exhibit similar properties.

Art Unit: 1732

The cited art would not explicitly suggest Applicants' values insofar as the prior art is intended for other uses. Silica used as a catalyst support would not necessarily boast the same physical properties of silica (even the exact same silica) used for cosmetics or foodstuffs. The preferred use of an invention does not limit the scope of the invention to only said preferred use. Undisclosed properties of a given material do not alone make said properties unexpected or significant.

Regarding Minemoto, Applicant argues that there is not enough information provided in the abstract to suggest it is granular silica like that claimed. Examiner is unclear as to what exactly is missing from the teachings of Minemoto. Examiner respectfully disagrees. As stated both above and in the prior action, Minemoto teaches granular silica which also meets several of the specifications required in the claims and as taught by Deller. The rejection does not rely upon the silica of Minemoto to meet the silica as claimed, as Deller *exactly* teaches the claimed silica carrier. Minemoto teaches plant protection agents supported upon silica carriers, as does the instantly claimed invention.

Deller, Hasenzahl, and the Press Released have been discussed above, as has the equivalency teaching and the "unexpected results."

Regarding Park, Applicant argues that Park only discloses precipitated silica as opposed to the claimed pyrogenic silica. As stated both above and in the prior action, Hasenzahl teaches pyrogenic silica as being superior to precipitated silica. Such a teaching of superiority would also suggest that precipitated silica could at the very least be substituted with pyrogenic silica. Examiner has not intended to suggest that the

Art Unit: 1732

reverse is also true. Park is not relied upon for the teaching of the specific silica carrier, but for the teaching of an herbicide supported upon silica carriers in general. The specific carrier is disclosed by Deller.

Applicant states that none of Deller, Hasenzahl, or the Press Release teach silica as used for an herbicide application. Such a teaching is taught by Park.

Deller, Hasenzahl, and the Press Released have been discussed above, as has the equivalency teaching and the “unexpected results.”

Applicant states that there is no problem apparent in the primary reference for which the secondary references suggest a solution, so it is not clear why the references would be combined. Examiner respectfully disagrees. The problem, as pointed out both above and in the prior action, is that precipitated silica can be inferior to pyrogenic silica. Regardless of whether Park explicitly states a problem, the Deller reference is still considered obvious to an ordinary skilled artisan as modification with respect to the carrier. In other words, one of ordinary skill in the art would be able to use the support material of Deller for the herbicide of Park with predictable results and a reasonable expectation of success.

Regarding Peterson, the rejection of record does not rely upon the silica of Deller as a carrier. Rather, the silica of Deller, in view of the Press Release, is relied upon as a substitute binder for the isopropyl myristate of Peterson. At least instant claim 2 defines the foodstuff additive as comprising “gelling agents,” “thickeners,” “binders,” and “stabilizers.” As at least the microcrystalline cellulose of Peterson can be used for all of these purposes, the claimed limitations have been met.

“Unexpected results” and the publication date of the Press Release have been discussed above.

Regarding the Technical Bulletin, Applicants' arguments are considered to have been sufficiently addressed above. The prior art references are not limited to their preferred embodiments or their intended uses.

Ultimately, the carrier of the instant claims is *exactly* disclosed by Deller. Applicant has included the additives in order to substantiate the intended use of the instant invention; however, the claimed additives are not absolutely limited to such uses as foodstuff, feedstuff, or plant protection. Examiner considers the prior art of record to provide ample motivation to use the adsorbate silica of Deller as a carrier of the claimed “foodstuff additives,” “feedstuff additives,” and/or “plant protection agents.”

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to COLIN W. SLIFKA whose telephone number is (571)270-5830. The examiner can normally be reached on Monday-Thursday, 9:00AM-5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Melvin Curtis Mayes can be reached on 571-272-1234. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Art Unit: 1732

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/COLIN W SLIFKA/
Examiner, Art Unit 1732

February 13, 2011

/Melvin Curtis Mayes/
Supervisory Patent Examiner, Art Unit 1732